



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

ENVIRONMENTAL SERVICES DIVISION  
ATHENS, GEORGIA 30613Site:  
Break: 1, 2  
Other:

RECEIVED

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REF: 4ES-EN

WATER QUALITY ASSESSMENT &  
ENFORCEMENT DIVISION

Mr. Russ Sherer  
South Carolina Department of Health and  
Environmental Control  
2600 Bull Street  
Columbia, South Carolina 29201

Dear Mr. Sherer:

Enclosed are recent results for dioxins (TCDD), dibenzofurans (TCDF), and PCB's for sediments and fish tissue samples from Lake Hartwell.

The sediment samples were collected with an Eckman dredge from a four-mile reach of Twelve-Mile Creek (from just downstream of County Road 337 bridge downstream to the Twelve-Mile Recreation Area). The enclosed map shows the station locations. Station 4 was as far upstream as the boat could go. The samples were collected on August 6, 1985 and approximately represent the top two to three inches of sediment.

With one exception, the fish were collected from Lake Hartwell during 1985 (Sample HD-1 was collected during the National PCB study in 1976). The following table describes relevant information concerning the fish:

<u>Station</u>	<u>Location</u>	<u>Fish</u>
12-1	18-Mile Creek	Hybrid bass
12-2	18-Mile Creek	Hybrid bass
12-3	18-Mile Creek	Hybrid bass
12-4	12-Mile Creek	Hybrid bass
12-5	12-Mile Creek	Channel catfish
12-6	12-Mile Creek	Largemouth bass
12-7	12-Mile Creek	Largemouth bass
12-8	12-Mile Creek	Largemouth bass
12-9	12-Mile Creek	Largemouth bass
12-10	12-Mile Creek	Largemouth bass
12-11	12-Mile Creek	Largemouth bass
12-12	12-Mile Creek	Largemouth bass
12-13	12-Mile Creek	Channel catfish
12-14	12-Mile Creek	Channel catfish
HD-1	Lake Hartwell	Composite of several fish
Comp 1	Tugaloo River	Hybrid bass (composite)
Comp 2	Tugaloo River	Hybrid bass (composite)
Comp 5	Tugaloo River	Hybrid bass (composite)
C-23	Tugaloo River	Hybrid bass (composite)



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These data are currently being reviewed by the Region IV Risk Assessment Co-ordination Team and have also been forwarded to the Center for Disease Control for public health impact evaluation.

If you have any questions about the data or the sampling locations, please call Mike Carter at 404/546-3117.

Sincerely,



James H. Finger, Director  
Environmental Services Division

Enclosures

Lake Hartwell  
Twelve Mile Creek  
Sediments

COMPOUND	TMC-01S	TMC-02S	TMC-03S	TMC-04S	TMC-05S	TMC-06S	TMC-07S	TMC-08S	TMC-09S	TMC-10S	TMC-11S	TMC-12S
2,3,7,8 TCDD (Dioxin)	0.04U	0.02U	0.02U	0.02U	0.05U	0.06U	0.07U	0.03U	0.03U	0.03U	0.04U	0.05U
Tetrachlorodibenzodioxin (Total)	0.04U	0.02U	0.02U	0.02U	0.05U	0.06U	0.07U	0.03U	0.03U	0.03U	0.04U	0.05U
Pentachlorodibenzodioxin (Total)	0.04U	0.02U	0.02U	0.02U	0.05U	0.06U	0.07U	0.03U	0.03U	0.03U	0.04U	0.05U
Hexachlorodibenzodioxin (Total)	0.04U	0.036	0.02	0.02U	0.05U	0.06U	0.07U	0.03U	0.03U	0.03U	0.04U	0.05U
Heptachlorodibenzodioxin (Total)	0.140	0.12	0.02U	0.02U	0.8	0.33	0.07U	0.4	0.069	0.12	0.62	0.41
Octachlorodibenzodioxin (Total)	1.8	1.9	0.57	0.02U	7.1	12.0	5.6	1.3	2.3	1.0	3.7	3.1
2,3,7,8 TCDF (Dibenzofuran)	0.048	0.022	0.02U	0.02U	0.05U	0.02U	0.03U	0.03	0.015	0.012	0.042	0.044
Tetrachlorodibenzofuran (Total)	0.29	0.12	0.098	0.02U	0.15	0.02U	0.054	0.12	0.046	0.089	0.35	0.39
Pentachlorodibenzofuran (Total)	0.04U	0.02U	0.02U	0.02U	0.05U	0.02U	0.03U	0.03U	0.01U	0.01U	0.01U	0.01U
Hexachlorodibenzofuran (Total)	0.12	0.056	0.05	0.02U	0.13	0.095	0.03U	0.084	0.01U	0.017	0.066	0.046
Heptachlorodibenzofuran (Total)	0.095	0.062	0.04	0.02U	0.05U	0.02U	0.03U	0.19	0.028	0.033	0.240	0.140
Octachlorodibenzofuran (Total)	0.021	0.02U	0.02U	0.02U	0.05U	0.02U	0.03U	0.03U	0.01U	0.01U	0.085	0.064
PCB - 1242	23	9.3	16	1.0	35	27	30	26	0.75	3.8	9.7	7.4
PCB - 1254	8.6	5.0	9	0.68	13	11	13	11	0.63	1.8	4.2	4.3
PCB (Total)	31.6	14.3	25	1.68	48	38	43	37	1.38	5.6	13.9	11.7

NOTE: 1) U - The material was analyzed for but not detected. The number is the estimated minimum quantification limit.  
 2) Total TCDD and TCDF includes 2,3,7,8 results.  
 3) Units for TCDD and TCDF - ng/kg or parts per trillion.  
 4) Units for PCB's - mg/kg or parts per million.

## Lake Hartwell Fish

Compound	12-1	12-2	12-3	12-4	12-5	12-6	12-7	12-8	12-9	12-10	12-11	12-12	12-13	12-14	12-15	HD-1	COMP 1	COMP 2	COMP 5	C-23
2,3,7,8 TCDD (Dioxin)	20U(5U)	10U(5U)	20U(5U)	10U	10U(5U)	10U	10U(5U)	10U	10U	10U	10U	10U(5U)	10U(5U)	20U	10U	70U(5U)	10U	10U	20U	10U
Tetrachlorodibenzodioxin (Total)	20U(5U)	10U(5U)	20U(5U)	21U	10U(5U)	20U	10U(5U)	10U	10U	10U	10U	10U(5U)	10U(5U)	10U	10U	70U(5U)	10U	10U	10U	10U
Pentachlorodibenzodioxin (Total)	20U(5U)	10U(5U)	10U(5U)	10U	10U(5U)	10U	10U(10U)	10U	10U	10U	10U	10U(5U)	10U(5U)	20U	10U	70U(5U)	10U	10U	10U	10U
Hexachlorodibenzodioxin (Total)	20U(10U)	10U(10U)	10U(10U)	10U	10U(10U)	10U	10U(10U)	10U	10U	10U	10U	10U(10U)	10U(10U)	10U	10U	70U(160)	10U	10U	10U	10U
Heptachlorodibenzodioxin (Total)	20U(10U)	10U(10U)	10U(11)	10U	10U(10U)	10U	10U(20U)	10U	10U	10U	10U	10U(10U)	10U(10U)	10U	10U	70U(10U)	10U	10U	10U	10U
Octachlorodibenzodioxin (Total)	20U(20U)	10U(20U)	10U(140)	10U	10U(20U)	10U	10U(20U)	130	10U	10U	10U	10U(140)	10U(20U)	10U	10U	70U(45)	10U	10U	10U	10U
2,3,7,8 TCDF (Dibenzofuran)	46(29)	34(21)	99(71)	290	10U(5U)	10U	24(20)	35	10	63	28	74(47)	10U(5U)	10U	10U	220(95)	130	60	85	92
Tetrachlorodibenzofuran (Total)	46(29)	34(21)	99(88)	290	10U(5U)	10U	24(20)	35	10	63	28	74(73)	10U(5U)	10U	10U	220(110)	130	60	85	92
Pentachlorodibenzofuran (Total)	10U(5U)	10U(5U)	10U(5U)	10U	10U(5U)	10U	10U(5U)	10U	10U	10U	10U	10U(6.6)	10U(5U)	10U	10U	31(32)	10U	10U	10U	10U
Hexachlorodibenzofuran (Total)	10U(10U)	10U(10U)	10U(5U)	10U	10U(10U)	10U	10U(10U)	10U	10U	10U	10U	10U(10U)	10U(10U)	10U	10U	10U(10U)	10U	10U	10U	10U
Heptachlorodibenzofuran (Total)	10U(10U)	10U(10U)	10U(16)	10U	10U(10U)	10U	10U(10U)	10U	10U	10U	10U	10U(43)	10U(10U)	10U	10U	10U(28)	10U	10U	10U	10U
Octachlorodibenzofuran (Total)	10U(20U)	10U(20U)	10U(20U)	10U	10U(20U)	10U	10U(20U)	10U	10U	10U	10U	10U(20U)	10U(20U)	10U	10U	10U(20U)	10U	10U	10U	10U
PCB - 1242	0.56	0.4	1.8	46	4.1	2.2	5.7	4.6	7.7	28	6.9	7.8	4.2	18	1.8	37	1.2	0.77	1.4	0.9
PCB - 1254	1.6	1.4	3.2	51	23	1.6	10	13	8.1	34	11	8.0	11	50	4.4	110	4.6	4.9	5.6	3.2
PCB (Total)	2.11	1.8	5.0	97	27.1	3.8	15.7	17.6	15.8	62	17.9	15.8	15.2	68	6.2	147	5.8	5.67	7.0	4.1

E: 1) U - The material was analyzed for but not detected. The number is the estimated minimum quantification limit.

2) Number in parenthesis - split samples analyzed by EPA - Duluth.

3) Total TCDD and TCDF includes 2,3,7,8 results.

4) Units for TCDD and TCDF - ng/kg or parts per trillion.

5) Units for PCB's - mg/kg or parts per million.

